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### 1. Description

<b>Products</b>	Mouse IL-3 IS, research grade. Recombinant mouse interleukin 3 IS (improved sequence).						
	<table border="1"> <thead> <tr> <th>Content in µg</th> <th>Order no.</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>130-096-687</td> </tr> <tr> <td>25</td> <td>130-096-688</td> </tr> </tbody> </table>	Content in µg	Order no.	10	130-096-687	25	130-096-688
Content in µg	Order no.						
10	130-096-687						
25	130-096-688						
<b>Biological activity</b>	The ED <sub>50</sub> is ≤0.05 ng/mL corresponding to an activity of ≥2×10 <sup>7</sup> U/mg. ▲ <b>Note:</b> The ED <sub>50</sub> is determined by proliferation assay using mouse 32D cells. The proliferation assay was calibrated with the reference standard for mouse IL-3 (NIBSC code 91/662) provided by the WHO/National Institute for Biological Standards and Control.						
<b>Primary structure</b>	Single, non-glycosylated polypeptide chain (134 amino acid residues including two Cys to Ser substitutions at amino acid position 105 and 166).						
<b>Molecular mass</b>	15.1 kDa.						
<b>Source</b>	Produced in <i>E. coli</i> .						
<b>Product format</b>	Lyophilized from a filtered (0.2 µm) buffer solution.						
<b>Stabilizer</b>	Mannitol and trehalose.						
<b>Purity</b>	>97% as determined by SDS-PAGE analysis.						
<b>Endotoxin level</b>	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.						
<b>Storage</b>	Lyophilized Mouse IL-3 IS, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.						
<b>Reconstitution</b>	It is recommended to reconstitute lyophilized Mouse IL-3 IS, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.						

### 1.1 Background information

Interleukin 3 (IL-3) is a hematopoietic growth factor which is produced mainly by activated T cells, but is also secreted by other cell types, including mast cells, eosinophils, and keratinocytes. The broad spectrum of biologic activities of IL-3 includes the stimulation of the proliferation and differentiation of immature pluripotent hematopoietic stem cells and various lineage-committed progenitor cells, leading to the production of most of the major blood cell types. In addition, IL-3 also affects the functional activity of mature mast cells, basophils, eosinophils, and macrophages.

### 1.2 Applications

Mouse IL-3 IS can be used for a variety of applications, including:

- As cell culture supplement to maintain hematopoietic cells or cell lines, such as the pro-B lymphoid cell line BaF/3 or 32Dcl3 cells.
- Induction of colony formation of hematopoietic progenitor cells in semi-solid medium, e.g. of highly purified Sca-1<sup>+</sup>/lin<sup>-</sup> cells.
- Pre-stimulation of hematopoietic progenitor cells for retroviral transduction prior to bone marrow transplantation.
- *In vitro* differentiation studies, e.g. of mast cells.

Optimal concentration for a specific application should be determined by a dose-response experiment.

### 2. References

1. Rodriguez, S. *et al.* (2011) The SKP2 E3 ligase regulates basal homeostasis and stress-induced regeneration of HSCs. *Blood* 117 (24): 6509–6519.
2. Rochelle, T. *et al.* (2013) p210bcr-abl induces amoeboid motility by recruiting ADF/dextrin through RhoA/ROCK1. *FASEB J.* 27 (1): 123–134.

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